

Guide to using your DreamStation CPAP machine and humidifier

Information for patients

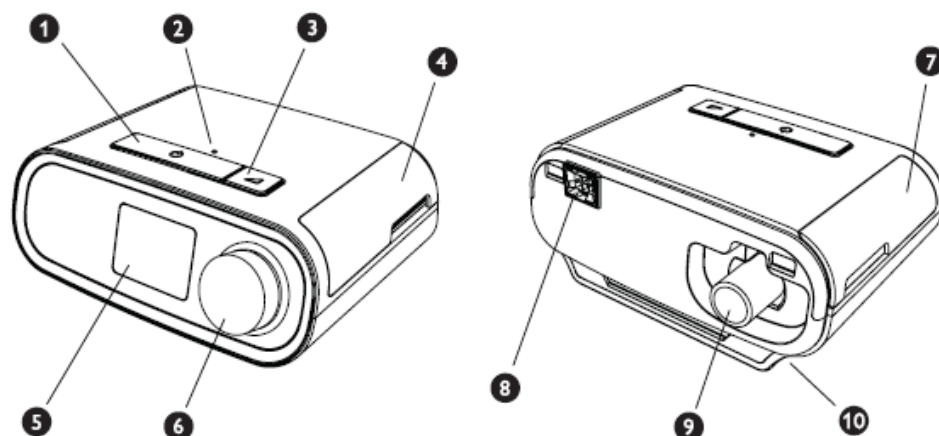
You have been given a CPAP (Continuous Positive Airway Pressure) machine to treat Obstructive Sleep Apnoea (OSA). It is important that you look after the machine and the mask. This leaflet explains how to use and look after your CPAP machine and mask. It also explains how to connect and clean a humidifier.



Name.....

Mask type and size.....

Description of machine parts



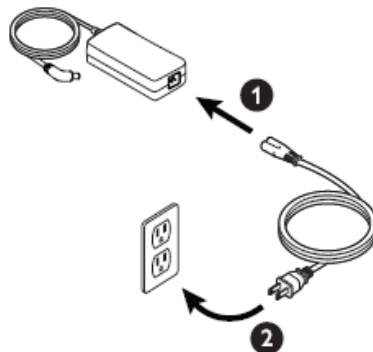
This figure illustrates some of the device features, described in the following table.

#	Device Feature	Description
1	Therapy On/Off Button 	Starts and stops the airflow for therapy. If the Therapy On/Off button LED is flashing, you may have a pending message. Press or turn the knob to display the message.
2	Ambient Light Sensor	Detects room light levels and adjusts brightness of LCD Display Screen.
3	Ramp Button 	Activates the ramp feature during therapy.
4	Door, SD card & Filter Access	This door lifts open for access to the SD card and filter area.
5	LCD Display Screen	This is the User Interface for the therapy device.
6	Control Dial	Turn the dial to scroll between options on the screen. Press the dial to choose an option.
7	Door, Accessory Access	This door lifts open for access to the (optional) accessories.
8	Humidifier Connector	Humidifier connects to the back of the therapy device. The humidifier pin connector will attach here.
9	Air Outlet Port	Connect the tubing here.
10	Power Inlet	Connect the power cord here.

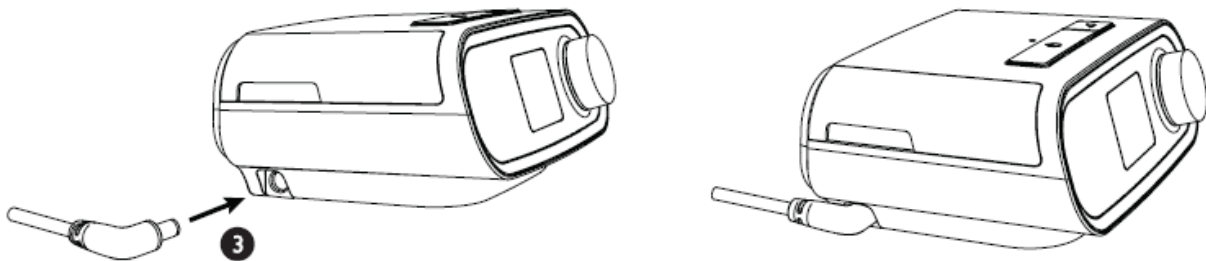
Setting up your machine

Before using the machine, plug the machine into the mains by using the steps from 1 to 4 below:

1. Plug the socket end of the AC power cord (included) into the power supply (also included).
2. Plug the pronged end of the AC power cord into an electrical outlet that is not controlled by a wall switch.



3. Plug the power supply cord's connector into the power inlet on the side of the device.



4. Verify that the plug at the side of the device, at the power supply, and at the electrical outlet are fully inserted. This will help to ensure that a secure, reliable electrical connection has been made.

Note: If the following Check Power icon appears on the screen, please repeat step 4.



Where to place the CPAP

Place the device on a firm, flat surface somewhere within easy reach of where you will use it at a level lower than your sleeping position.

Air must flow freely around the device for the system to work properly. Make sure the device is away from any heating or cooling equipment (for example, radiators or air conditioners).

Do not:

- place the device directly onto carpet, fabric, or other flammable materials
- place the device in or on any container that can collect or hold water
- cover the device with bedding or curtains

How often should you use CPAP?

It is important to use CPAP every night, for a minimum of four hours (ideally the whole night). There is a clock in your CPAP machine, which records how many hours you use it for each night. The mask has to be on and breathing detected rather than the airflow just being turned on for this to work.

If you are having any problems with CPAP treatment please contact the Chest Unit.

Follow-up appointments

It is important that you attend the Chest Unit for regular follow-up appointments to check that your CPAP is going well. You will also be seen in the Sleep and Ventilation clinic. It is important that you attend all of your appointments to discuss any problems you may be having. Once you are established on CPAP you will only have to attend yearly.

If you do not attend your appointments, the CPAP team will not be able to accept responsibility for the safety of the CPAP machine or your treatment.

Remote monitoring

Some of our DreamStation CPAP devices may temporarily be fitted with a device called a modem, which is able to send us information regarding the effectiveness of your CPAP treatment. It can also tell us how often you are using it and if your mask is fitting properly. This will enable us to optimise your treatment while reducing your number of hospital visits.

The modem sends your data securely, does not use your internet connection and so will not cost you anything when it sends us the information. We will always ask your permission first before fitting the modem.

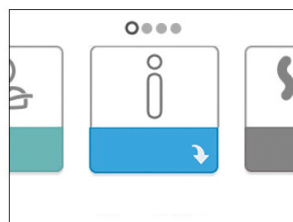
Traveling with CPAP

If you are going abroad please contact the Chest Unit so that we can supply you with a letter for customs. Please take the CPAP machine on as hand luggage to prevent accidental damage.

Using your DreamStation CPAP machine

To start and stop the airflow:

- Once plugged in the display screen will turn on.



- Connect your CPAP tubing, by connecting one end to the air outlet port and the other end to your mask.
- Fit your mask and adjust the straps accordingly. (This is explained in more detail below).
- Press the therapy button  on top of the device to turn on airflow and begin therapy.
 - The amount of pressure will be shown on the display screen.
- To stop the flow of air, press the therapy button  again.

Putting on your CPAP mask

You will be supplied with a CPAP mask and shown how to fit it. The physiologist will have discussed with you the most appropriate mask type for you.

It is important that the mask is not over tightened as this may cause redness and sores to the bridge of the nose or face.

There are lots of different types of mask. Please refer to the mask instructions that you have been given when you were fitted with the mask for more detailed information.

Generally, for all mask types small leaks are acceptable. Small adjustments can be made to eliminate excessive leaks.

If leaks occur:

- reseal the mask by pulling the mask faceplate directly away from your face and set it gently back into place. This allows the cushion to create a new seal on the face.
- for leaks around the eyes, adjust the side straps.
for leaks around the lips, adjust the lower straps.
- for pressure at the bridge of the nose, loosen the side straps.

Remember to wash your face before applying the mask to remove facial oils and make up. Do not apply moisturiser to your face at night as this may prevent the mask from sealing.

If you are having problems with your mask please contact the Chest Unit.

DreamStation features that help with your treatment

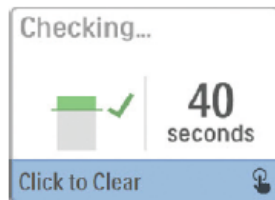
Check Mask Fit:

The *Check Mask Fit* option on your device allows you to ensure that the mask is correctly fitted before use. This will ensure that it does not leak during the night.

Put your mask on and turn the control dial until you reach the “My Setup” option. Push the control dial.



My Setup



Check Mask Fit Screen

The device will deliver a test pressure for 40 seconds. A green bar means good mask fit, while a red bar means there is a leak and the mask needs adjusting (which you can do while the time is counting down). After the test has finished, normal therapy will start. A green tick means that the mask is fitting well. A red “X” means that there is a leak and the mask needs adjusting.

Ramp feature:

This feature reduces the air pressure when you are trying to fall asleep and then gradually increases (ramps) the pressure until your prescription setting is reached, allowing you to fall asleep more comfortably.

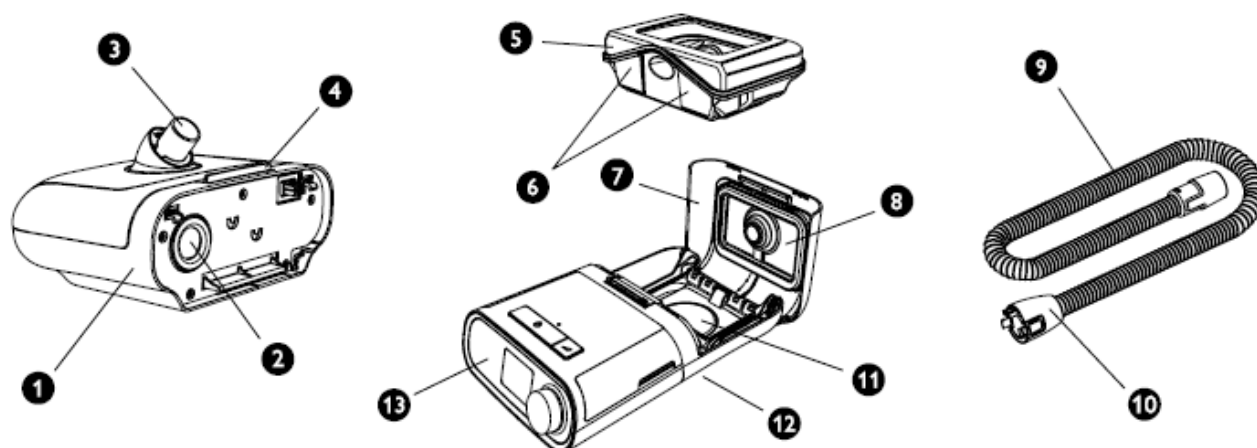
- After you turn on the airflow, press the RAMP () button.
- You can use the RAMP button as you wish during the night, so if you ever feel that the pressure is too strong press the RAMP button to reduce it.
- This will lower the pressure to 4 (this is the lowest the pressure the machine can go down to). This will also be shown on the display screen.

- The length of ramp can vary from 5 to 45 minutes. Your physiologist will set this to what is most appropriate for you.

If you need a humidifier

We might decide that breathing damp (humidified) air will help you if you have a productive sticky cough (you cough up phlegm/mucus) or a dry mouth.

Description of humidifier parts



This figure illustrates many of the device features and contents, described in the following table.

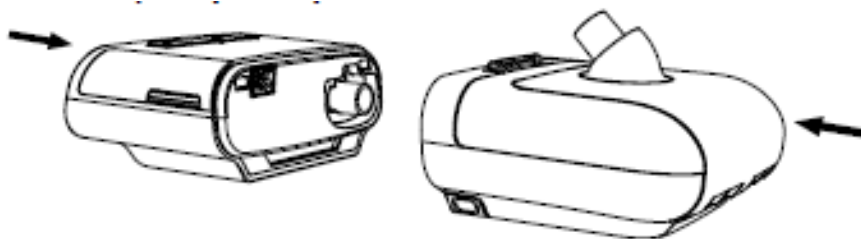
#	Device Feature	Description
1	Humidifier	Connect your therapy device here.
2	Air Inlet Port	Connects to the outlet port on the therapy device.
3	Air Outlet Port	Connect the tubing here.
4	Humidifier Lid Release Latch	Slide this latch to open the humidifier lid.
5	Water Tank	This one piece removable water tank holds the water for humidification.
6	Maximum Fill Lines	The fill lines indicates the maximum water level for safe operation.
7	Humidifier Lid	Open the lid to access the water tank.
8	Humidifier Lid Seal	Seals the water tank to the humidifier lid.
9	Flexible Heated Tubing (optional)	The optional heated tube connects from the humidifier to the patient's mask.
10	Humidifier Connector End	Connect this end of the tubing to the humidifier.
11	Heater Plate	Warms the water in the water tank.
12	Humidifier Release Button	Press this button to remove the humidifier from the therapy device. Refer to the "Disconnecting the Therapy Device" section of this manual to see this button.
13	Therapy Device	The heated humidifier connects to the back of the therapy device.

How to connect the humidifier to the CPAP machine

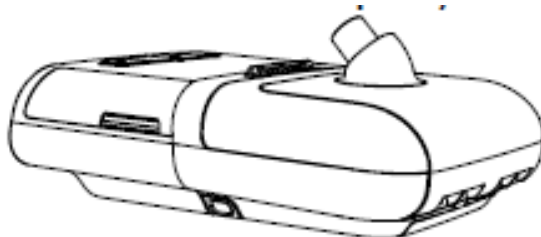
Place the CPAP device and the heated humidifier (with an empty water tank) on a firm, flat surface.
Caution: Do not move the humidifier while the water tank has water in it. This can damage the device.

Line up the back of the CPAP device to front of the heated humidifier.

Make sure the air outlet port on CPAP device lines up with the air inlet port on the humidifier. (as shown in the diagram below).



Slide the two units together until they click into place. Make sure that the CPAP device and the humidifier are completely seated against each other.



Filling the humidifier with water

Remove the water chamber from the humidifier by releasing the lid (pull the release latch on top of the humidifier) and swing it completely open.

Remove and rinse the chamber with water and put it on a flat surface. Fill it no higher than the maximum fill line with either boiled water that has cooled down or distilled water. Carefully replace the water tank into the humidifier and close the humidifier lid until the latch clicks shut.

Attach your tubing to the air outlet port on the humidifier.

Warning: The humidifier must be level for proper operation.

Caution: Do not place the humidifier directly onto carpet, fabric or any other flammable materials.

Caution: Take precautions to protect furniture from water damage.

Important:

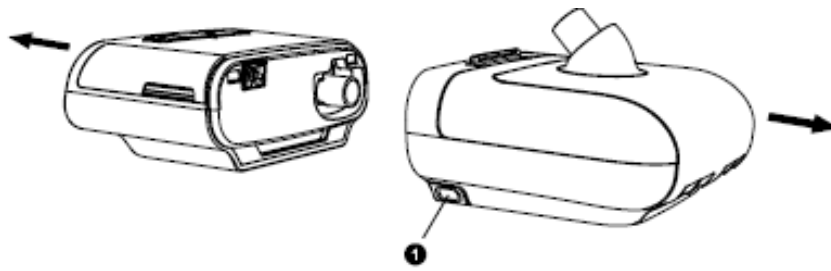
- Do not fill the tank while it is still inside the humidifier.
- Only use water that you have first boiled then cooled (or distilled water) to kill any bacteria.
- Change the water in your humidifier every day to prevent mould and bacteria growth. Dispose of any remaining water in the morning.
- Do not put any chemicals or additives into the water as these may irritate your airway or damage the water tank.
- Warning: Be very careful of the heater plate, heated water or tank pan.
- Do not travel or go to your CPAP review appointments with water in the humidifier tank.
- If you are getting moisture or water inside your mask and tubing, the humidifier is set too high. Turn the dial down to a lower setting.

Disconnecting the CPAP device from the humidifier

Disconnect the power to the therapy device.

Place one hand on the CPAP machine and the other hand on the humidifier.

Press the grey humidifier release button (1), (on the side of the device) and pull apart to separate.

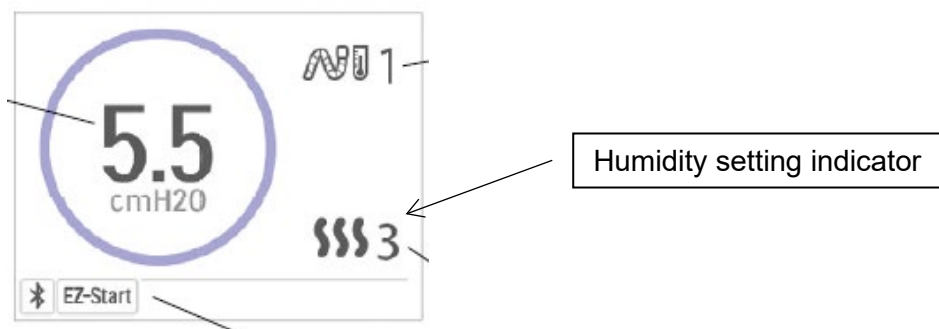


Heated tubing: If appropriate, the physiologist may supply you with heated tubing. This is supplied when the maximum setting on the humidifier is not enough to stop the dryness caused by the CPAP machine.

Adjusting the humidification:

While the device is switched on and blowing air, the heat of the humidifier can be adjusted.

Rotate the control dial on the front of the DreamStation device and the number in the bottom corner of the screen will change.



1 is the lowest level of heat and 5 is highest level of heat. 0 will switch off the humidifier.

Set the heat to whatever you are comfortable with. If you are getting moisture or water inside your mask and tubing, the humidifier is set too high. Turn the dial down to a lower setting.

Looking after your DreamStation CPAP

Machine care

Keep the DreamStation machine clean and dust free.

Mask care

Always wash your face before putting on your mask, to remove facial oils and make-up. Do not put moisturiser on your face at night as this may stop the mask from sealing.

If you look after your mask it should last a year. If it breaks or starts to leak a lot, contact the Chest Unit for a new one.

Very rarely some users may experience skin redness, irritation, or discomfort from the mask. If this happens, stop using your mask and contact the Chest Unit.

Daily:

- Take the mask cushion or nose pillows off the straps. Clean with warm soapy water, rinse and leave to dry.
- Do not use alcohol on the mask as this can damage it.
- Do not put it in the dishwasher or very hot water.

Weekly:

- Take off the straps, wash in warm soapy water and leave to dry.

Tubing care

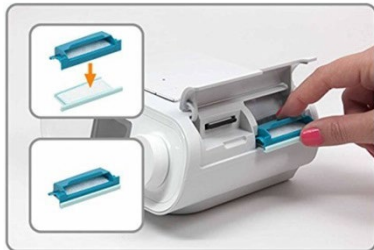
Clean the tubing before you first use it.

Weekly:

- Detach the flexible tubing from the NIV machine.
- Gently wash the tubing with warm water and a mild detergent.
- Rinse well.
- Hang it over a chair or the back of a door to drip dry.
- Check the tubing regularly for holes.

Filter care

The air filter at the side of the machine prevents dust from entering the machine. You should clean it every two weeks and replace it every 6 months or if it becomes damaged.



- Disconnect the device from the power source.
- Remove the filter (as shown in the diagram above).
- Remove any visible dust by tapping it on a hard surface.
- Take the reusable filter to a sink, turn it upside down, and run warm tap water through the white middle portion of the filter to rinse away any debris.
- Shake the filter to remove as much water as possible.
- Allow the filter to air dry completely before reinstalling it. If the filter is damaged, replace it with a new one from the Chest Unit.

Caution: Never install a wet filter into the device. You must ensure sufficient drying time for the cleaned filter.

Important: Do not let the filter get blocked with dust because this will affect how well the DreamStation works.

Humidifier care

Cleaning the water tank

Turn the machine off and allow the heater plate and water to cool down for about 15 minutes before removing the water tank.

Open the humidifier with the release lever and remove the water tank from the humidifier.

Wash the water tank in a warm soapy water or wash in the top shelf of a dishwasher.

Rinse with clean water and allow the water tank to air dry.

If a build-up of limescale appears then you can fill the tank with one part lemon juice to nine parts boiled water and leave to soak for three to four hours. Make sure that the solution is rinsed away thoroughly before re-use.

Cleaning the humidifier base

Clean the humidifier base and heater plate by wiping it down with a damp cloth. Allow to air dry before reconnecting.

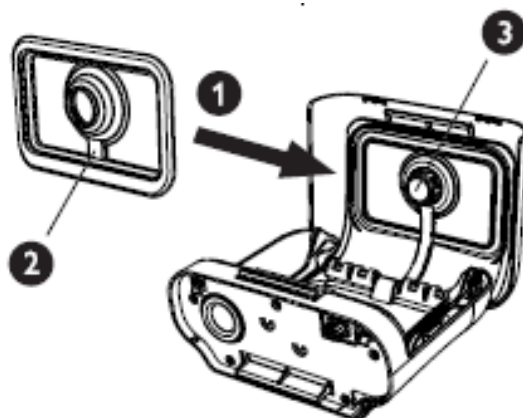
Checking and cleaning the humidifier seal

The humidifier seal (pictured below) should not normally need any maintenance or replacement.

The humidifier lid seal should be wiped down with a damp cloth.

If necessary, the seal can be gently peeled away from the humidifier lid and be cleaned in warm soapy water and rinsed in clean water.

Allow to air dry before re-attaching the seal.



To re-attach the humidifier seal, follow the above steps in the diagram.

- Position the seal (1) against the inside of the lid, so the seal's centre hole aligns with the humidifier outlet port.
- Confirm that the seal is positioned so the wire channel (2) in the seal is below the humidifier port (3).
- With the seal loosely in place, gently press the edges of the seal into the channel in the humidifier lid.
- Continue sliding your finger all around the rectangle edge of the seal until it is firmly in place.
- Then press the seal down around the humidifier outlet port until the centre of the seal is firmly in place.
- Lastly, run your fingers around the rectangular edge of the seal again to ensure it has not come out of place.

Key things to remember

- Wash your mask cushion every day
- Wash your mask straps weekly
- Clean your CPAP tubing weekly

- Check your filter daily and wash every two weeks
- Keep your CPAP machine on a clear flat surface
- Use CPAP every night for a minimum of four hours

Who can I contact with queries and concerns?

If you have any problems with your machine at home, please contact the Respiratory Physiologists.

Contact the Chest Unit if you have questions about your CPAP therapy or problems with your CPAP machine or CPAP mask.

Chest Unit at King's College Hospital

Tel: 020 3299 4743 option 3

Email: kch-tr.CPAPkings@nhs.net

Chest Unit at Princess Royal University Hospital (PRUH)

Tel: 01689 863104

Troubleshooting

Problem	Why it happened	What to do
Nothing happens when the power is supplied to the machine.	There is no power at the outlet or the device is not plugged in.	Check that the device is properly plugged in. Ensure that there is power available at the socket. Make sure that the power cord is connected correctly to the power supply and power supply cord is securely connected to the device's power inlet. If the problem continues call the Chest Unit.
The airflow does not turn on.	There may be a problem with the blower.	Make sure that the device is powered correctly. Make sure that the home screen appears on the display screen. Press the therapy button to start the airflow. If the airflow does not turn on contact the Chest Unit.
The airflow is much warmer than usual.	The filter may be dirty. The device may be operating in direct sunlight or near a heater.	Clean or replace your filter. Keep the device away from curtains or bedding, as this can block the air flow. Keep the device from direct sunlight or a radiator.
The water in the humidifier runs out before morning.	The water chamber was not full at the start. Mask leak is excessively high.	Typically a full water chamber should last the whole night. Ensure that your water chamber is filled to the maximum fill line.

	The room temperature is too cold.	Check that your mask is fitted properly. You may also choose to lower your humidifier heat settings.
I hear a leak or whistling noise coming from my machine (not related to mask leak).	The air inlet may be blocked. The humidifier or tubing may not fully connected.	Check that the air inlet is not blocked and clean your filters. Check that all parts are correctly connected.
There is excessive condensation in the tubing.	The heat setting is too high. The humidifier is incorrectly positioned.	Reduce the heat. Keep the CPAP device and humidifier away from any air conditioning equipment.
The heated tubing is not warming up.	The heated tubing setting is set to 0.	Increase the heat, as stated in the heating tubing instructions.

Care provided by students

We provide clinical training where our students get practical experience by treating patients. Please tell your doctor or nurse if you do not want students to be involved in your care. Your treatment will not be affected by your decision.

PALS

The Patient Advice and Liaison Service (PALS) is a service that offers support, information and assistance to patients, relatives and visitors. They can also provide help and advice if you have a concern or complaint that staff have not been able to resolve for you.

PALS at King's College Hospital, Denmark Hill, London SE5 9RS:

Tel: 020 3299 3601

Email: kch-tr.palsdh@nhs.net

You can also contact us by using our online form at **www.kch.nhs.uk/contact/pals**

PALS at Princess Royal University Hospital, Farnborough Common, Orpington, Kent BR6 8ND

Tel: 01689 863252

Email: kch-tr.palspruh@nhs.net

If you would like the information in this leaflet in a different language or format, please contact PALS on 020 3299 1844.